PHYSICS ABSTRACTS

SECTION A

of

SCIENCE ABSTRACTS

SECTION A, PHYSICS
SECTION B, ELECTRICAL ENGINEERING

VOL. 48
1945

Edited and Issued by

THE INSTITUTION OF ELECTRICAL ENGINEERS
SAVOY PLACE, VICTORIA EMBANKMENT, LONDON, W.C.2

In Association with

THE PHYSICAL SOCIETY

THE AMERICAN PHYSICAL SOCIETY

THE AMERICAN
INSTITUTE OF ELECTRICAL ENGINEERS

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ERRATA

Abstr. 485, line 4: *for* 484 (1944) *read* 484 (1945).
Abstr. 1738, line 4: *for* 1944 *read* 1943.
Abstr. 1740, line 4: *for* Inst. Elect. *read* Soc. Mech.
Abstr. 1939, line 3: *for* July, *read* May.
Page 178, under cross reference 517.512.2 : 535.435 : 537.531, *for* Abstr. 1854, *read* Abstr. 1853.
Page 196, under cross reference 535.43 : 537.531, *for* Abstr. 1853 *read* Abstr. 1852.
Page 196, under cross reference 535.435 : 517.512.2 : 537.531, *for* Abstr. 1854 *read* Abstr. 1853.
Page 225, under cross reference 548.55 : 537.531, *for* Abstr. 1852 *read* Abstr. 1854.

LIST OF JOURNALS

† indicates Journals from which all articles are normally abstracted.

Acta Med. Scand.	Acta Medica Scandinavica. Stockholm.
Acta Physiol. Scand.	Acta. Physiologica Scandinavica. Stockholm.
Aeroplane	Aeroplane. London.
Aircr. Engng	Aircraft Engineering. London.
Aircr. Prod.	Aircraft Production. London.
Alsthom Bull. Tech.	Alsthom Bulletin Technique. Paris.
Aluminium	Aluminium. Berlin.
Amer. Foundrym.	American Foundryman. Chicago.
Amer. J. Math.	American Journal of Mathematics. Baltimore, Md.
Amer. J. Phys.	American Journal of Physics. New York.
Amer. J. Physiol.	American Journal of Physiology. Boston, Mass.
Amer. J. Roentgenol. and Radium Ther.	American Journal of Roentgenology and Radium Therapy. Springfield, Ill.
Amer. J. Sci.	American Journal of Science. New Haven, Conn.
Amer. Math. Mon.	American Mathematical Monthly. New York.
Amer. Potato J.	American Potato Journal. Washington, D.C.
Amer. Rev. Tuberc.	American Review of Tuberculosis. New York.
Anat. Rec.	Anatomical Record. Philadelphia, Pa.
Ann. Astrophys. Obs. Smithson. Instn	Annals of the Astrophysical Observatory of the Smithsonian Institution. Washington, D.C.
Ann. Harv. Coll. Obs.	Annals of the Harvard College Observatory. Cambridge, Mass.
Ann. Math., Princeton	Annals of Mathematics. Princeton, N.J.
Ann. Math. Statist.	Annals of Mathematical Statistics. Baltimore, Md.
Ann. N.Y. Acad. Sci.	Annals of the New York Academy of Science. New York.
Ann. Phys., Lpz.	Annalen der Physik. Leipzig.
Ann. Phys., Paris	Annales de Physique. Paris.
Ann. Rev. Physiol.	Annual Review of Physiology. Stanford University, Calif.
Ann. Soc. Sci. Brux.	Annales de la Société Scientifique de Bruxelles. Louvain.
Ann. Solar Phys. Obs.	Annals of the Solar Physics Observatory. Cambridge.
Appl. Math. Mech.	Applied Mathematics and Mechanics. Moscow.
A.R. Nat. Res. Coun. Can.	Annual Report of the National Research Council of Canada. Ottawa.
Arch. Elektrotech.	Archiv für Elektrotechnik. Berlin.
Arch. Neurol. Psychiat., Chicago	Archives of Neurology and Psychiatry. Chicago.
Arch. Otolaryng.	Archives of Otolaryngology. Chicago.
Arch. Phys. Ther.	Archives of Physical Therapy. Omaha, Nebraska.
Arch. Sci. Phys. Nat.	Archives des Sciences Physiques et Naturelles. Geneva.
Arch. tech. Messen	Archiv für technisches Messen. Munich.
Arch. Wärmew.	Archiv für Wärmewirtschaft und Dampfkesselwesen. Berlin.
Ark. Kemi Min. Geol.	Arkiv för Kemi, Mineralogi och Geologi. Stockholm.
Ark. Mat. Astr. Fys.	Arkiv för Matematik Astronomi och Fysik. Stockholm and London.
Asea J.	ASEA Journal. Västerås, Sweden; and London.
Astrophys. J.	Astrophysical Journal. Chicago.
Auto Engr	Automobile Engineer. London.
Aviation	Aviation. New York.
A.W.A. Tech. Rev. (Amal. Wireless Aust.)	Amalgamated Wireless (Australasia) Technical Review. Sydney.
Beama J.	Beama Journal. London.
Bell Lab. Rec.	Bell Laboratories Record. New York.
Bell Syst. Tech. J.	Bell System Technical Journal. New York.
Bell Teleph. Mag.	Bell Telephone Magazine. New York.
Blast. Furn.	Blast Furnace and Steel Plant. Pittsburgh.
Boiler Availability Comm. Bull.	Boiler Availability Committee Bulletin. London.
Brit. J. Exp. Path.	British Journal of Experimental Pathology. London.
Brit. J. Radiol.	British Journal of Radiology. London.
Brit. Plast.	British Plastics. London.
Brown Boveri Rev.	Brown Boveri Review. London.
BTH Activ. [British Thomson-Houston]	BTH Activities. Rugby.
Bull. Abastumani Astrophys. Obs.	Bulletin of the Abastumani Astrophysical Observatory. Mount Kanobili, Georgia.
Bull. Acad. Sci. Georgian SSR.	Bulletin of the Academy of Sciences of the Georgian SSR. Abastumani, Georgia.
Bull. Acad. Sci. USSR. (Dep. Tech. Sci.)	Bulletin of the Academy of Sciences, USSR. Moscow.
Bull. Amer. Math. Soc.	Bulletin of the American Mathematical Society. Menasha, Wis., and New York.
Bull. Amer. Met. Soc.	Bulletin of the American Meteorological Society. Milton, Mass.
Bull. Amer. Soc. Test. Mater.	Bulletin of the American Society for Testing Materials. Philadelphia, Pa.
Bull. Ass. Suisse Élect.	Bulletin de l'Association Suisse des Électriciens. Zürich.
Bull. Calcutta Math. Soc.	Bulletin of the Calcutta Mathematical Society. Calcutta and Cambridge.
Bull. Geol. Soc. Amer.	Bulletin of the Geological Society of America. Rochester, N.Y.
Bull. Harv. Coll. Obs.	Bulletin of the Harvard College Observatory. Cambridge, Mass.
Bull. Instn Radio Engrs, Aust.	Bulletin of the Institution of Radio Engineers, Australia. Sydney.
Bull. Lick Obs.	Bulletin of the Lick Observatory. Berkeley, Cal.
Bull. Math. Biophys.	Bulletin of Mathematical Biophysics. Chicago.
Bull. Oerlikon	Bulletin Oerlikon. London.
Bull. Patna Sci. Coll. Phil. Soc.	Bulletin of the Patna Science College Philosophical Society. Patna, India.

Bull. Seism. Soc. Amer.	Bulletin of the Seismological Society of America. Berkeley, Cal.
Bull. Soc. Belge Élect.	Bulletin de la Société Belgique des Électriciens. Marcinelle, Belgium.
Bull. Soc. Franç. Élect.	Bulletin de la Société Française des Électriciens. Paris.
Bull. Tenn. Agric. Exp. Sta.	Bulletin of the Tennessee Agricultural Experimental Station. Knoxville, Tenn.
Bull. Univ. Ill. Engng Exp. Sta.	Bulletin of the University of Illinois Engineering Experimental Station. Urbana, Ill.
Bull. Univ. Pittsburgh	Bulletin of the University of Pittsburgh. Pittsburgh.
Bull. U.S Bur. Min.	Bulletin of the United States Bureau of Mines. Washington, D.C.
Canad. J. Res.	Canadian Journal of Research. Ottawa.
Cancer Res.	Cancer Research. Baltimore, Md.
Carnegie Instn Yearb.	Carnegie Institution Yearbook. Washington, D.C.
Cellulose-Chem.	Cellulose-Chemie. Berlin.
Cheap Steam	Cheap Steam. London.
Chem. Age, Lond.	Chemical Age. London.
Chem. Engng News	Chemical and Engineering News. Washington, D.C.
Chem. and Ind.	Chemistry and Industry. London.
Chem. Metall. Engng	Chemical and Metallurgical Engineering. New York.
Chem. Tech.	Die chemische Technik. Berlin.
Chinese J. Phys.	Chinese Journal of Physics. Kunming.
Circ. Harv. Coll. Obs.	Circular of the Harvard College Observatory. Cambridge, Mass.
Circ. Un. Obs., Johannesb.	Circular of the Union Observatory of South Africa. Johannesburg.
Circ. Univ. Ill. Engng Exp. Sta.	Circulars of the University of Illinois Engineering Experiment Station. Urbana, Ill.
Circ. U.S. Bur. Stand.	Circular of the United States Bureau of Standards. Washington, D.C.
Climatol. Data, W. Indies	Climatological Data. Washington, D.C.
Clin. Sci.	Clinical Science. London.
Colliery Engng	Colliery Engineering. London.
Colliery Guard.	Colliery Guardian. London.
Colo. Sch. Min. Quart.	Colorado School of Mines Quarterly. Denver, Col.
Comment. Pont. Acad. Sci.	Commentationes. Pontificia Academia Scientiarum. Città del Vaticano, Rome.
Communications	Communications. New York.
Contr. Soc. Res. Meteorites	Contributions of the Society for Research on Meteorites. Los Angeles.
C.R. Acad. Sci., Paris	Comptes rendus Hebdomadaires des Séances de l'Académie des Sciences. Paris.
C.R. Acad. Sci. URSS.	Comptes Rendus de l'Académie des Sciences de l'URSS. Moscow.
C.R. Soc. Physiol. Suisse.	Comptes rendus de la Société des Physiologistes Suisses. Geneva.
Curr. Sci.	Current Science. Bangalore.
Diesel Rly Tract. (Suppl. Rly Gaz.)	Diesel Railway Traction. Supplement to Railway Gazette and Railway News. London.
Distrib. Elect.	Distribution of Electricity. London.
Distribution	Distribution. Schenectady, N.Y.
Drop Forger	Drop Forger. Birmingham.
Econ. Pap. U.S. Bur. Min.	Economic Papers of the Bureau of Mines. Washington, D.C.
Econ. Proc. Roy. Dublin Soc.	Economic Proceedings of the Royal Dublin Society. Dublin and London.
Edg. Allen News	Edgar Allen News. Sheffield.
Edison Elect. Inst. Bull.	Edison Electric Institute Bulletin. Philadelphia, Pa.
Elect. Commun.	Electrical Communication. New York and London.
Elect. Engng, N.Y.	Electrical Engineering. New York.
Elect. Ind.	Electrical Industries. Maidenhead, Berks.
Elect. Mfg	Electrical Manufacturing. New York.
Elect. News Engng	Electrical News and Engineering. Toronto.
Elect. Pwr Engr	Electrical Power Engineer. Manchester.
Elect. Rev., Lond.	Electrical Review. London.
Elect. Superv.	Electrical Supervisor. New Barnet, Herts., England.
Elect. Times	Electrical Times. London.
Elect. Veh., Lond.	Electric Vehicles. Maidenhead, Berks.
Elect. World, N.Y.	Electrical World. New York and London.
Electrician	Electrician. London.
Electronic Engng	Electronic Engineering. London.
Electronic Ind.	Electronic Industries. New York.
Electronics	Electronics. New York and London.
Elekt. Nachr.-Tech. [ENT]	Elektrische Nachrichten-Technik. Berlin.
Elektrichestvo	Elektrichestvo. Moscow.
Elektrizität i. Bergbau	Elektrizität im Bergbau. Munich.
Elektroschweissung	Die Elektroschweissung. Brunswick.
Elektrotech. u. Maschinenb. [ÉuM]	Elektrotechnik und Maschinenbau. Vienna.
Elektrotech. Z. [ETZ]	Elektrotechnische Zeitschrift. Berlin.
Endeavour	Endeavour. London.
Engineer, Lond.	Engineer. London.
Engineering	Engineering. London.
Engl. Elect. J.	The English Electric Journal. Stafford, England.
Engng Boil. Ho. Rev.	Engineering and Boiler House Review. London.
Engng J., Montreal	The Engineering Journal. Montreal.
Engng Mater.	Engineering Materials. London.
Engng Suppl. Siemens Mag.	Engineering Supplement to Siemens Magazine. London.
Ericsson Rev.	Ericsson Review. Stockholm.
Ericsson Tech.	Ericsson Technics. Stockholm.
Experientia	Experientia. Basle.

Fact. Mgmt Mainten.	Factory Management and Maintenance. New York.
Fed. Proc.	Federation Proceedings. Baltimore, Md.
Finnish Paper and Timber J.	Finnish Paper and Timber Journal. Helsingfors.
Field and Lab.	Field and Laboratory. Dallas, Texas.
Fiziol. Zh. SSSR.	Fiziologhicheskii Zhurnal SSSR. Moscow.
Flight	Flight. London.
Food Res.	Food Research. Champaign, Ill.
For. Prod. Res. Spec. Rep. (D.S.I.R. Publ., Lond.)	Forest Products Research Special Report. Department of Scientific and Industrial Research, London.
Forsch. IngWes.	Forschung auf dem Gebiete des Ingenieurwesens. Ausgabe B. Berlin.
Found. Tr. J.	Foundry Trade Journal. London.
Foundry, Cleveland	Foundry. Cleveland, Ohio.
Foundry, Lond.	Foundry. London.
Gas Oil Pwr	Gas and Oil Power. Lockerbie, Dumfries.
G.E.C.Jl [Gen. Elect. Co.]	G.E.C. Journal. London.
Gen. Elect. Rev.	General Electric Review. Schenectady, N.Y., and London.
Gen. Radio Exp.	General Radio Experimenter. Cambridge, Mass.
Geol. Mag., Lond.	The Geological Magazine. Hertford, England.
Geophysics	Geophysics. Austin, Texas.
Handb. U.S. Bur. Stand.	Handbook of the United States Bureau of Standards. Washington, D.C.
Heat. Vent. Engr	Heating and Ventilating Engineer. London.
Helv. Chim. Acta	Helvetica Chimica Acta. Basle.
Helv. Phys. Acta	Helvetica Physica Acta. Basle.
Hochfrequenztech. u. Elektroakust.	Hochfrequenztechnik und Elektroakustik. Leipzig.
Illum. Engng, N.Y.	Illuminating Engineering. Baltimore, Md.
Inaug. Diss. Univ. Upsala	Inaugural Dissertation of the University of Upsala. Upsala.
Indian J. Phys.	Indian Journal of Physics and Proceedings of the Indian Association for the Cultivation of Science. Calcutta.
Industr. Chem.	Industrial Chemist. London.
Industr. Diamond Rev.	Industrial Diamond Review. London.
Industr. Engng Chem.	Industrial and Engineering Chemistry. Washington, D.C.
Industr. Engng Chem. (Analyt. Edit.)	Industrial and Engineering Chemistry (Analytical Edition). Washington, D.C.
Industr. Equipm. News	Industrial Equipment News. New York.
Inform. Circ. U.S. Bur. Min.	Information Circular of the United States Bureau of Mines. Washington, D.C.
IngenVetensAkad. Handl.	Ingeniörsvetenskapsakademiens Handlingar. Stockholm.
Inst. Fuel War Time Bull.	Institute of Fuel War Time Bulletin. London.
Instruments	Instruments. Pittsburgh.
I.R.I. Trans.	Transactions of the Institution of the Rubber Industry. London.
Iron Age	Iron Age. New York.
Iron Coal Tr. Rev.	Iron and Coal Trades Review. London.
Iron and Steel	Iron and Steel. Chicago.
Iron Steel Engr	Iron and Steel Engineer. Pittsburgh.
†J. Acoust. Soc. Amer.	Journal of the Acoustical Society of America. New York.
J. Amer. Ceram. Soc.	Journal of the American Ceramic Society. Easton, Pa.
J. Amer. Chem. Soc.	Journal of the American Chemical Society. Easton, Pa.
J. Amer. Soc. Agron.	Journal of the American Society of Agronomy. Washington, D.C.
J. Appl. Mech.	Journal of Applied Mechanics. New York.
†J. Appl. Phys.	Journal of Applied Physics. New York.
J. Bact.	Journal of Bacteriology. Baltimore, Md.
J. Cell. Comp. Physiol.	Journal of Cellular and Comparative Physiology. Philadelphia.
J. Chem. Phys.	Journal of Chemical Physics. New York.
J. Chem. Soc.	Journal of the Chemical Society. London.
J. Clin. Invest.	Journal of Clinical Investigation. Lancaster, Pa.
J. Coun. Sci. Industr. Res., Aust.	Journal of the Council of Scientific and Industrial Research. Melbourne.
J. Econ. Ent.	Journal of Economic Entomology. Geneva.
J. Electrodepos. Tech. Soc.	Journal of the Electrodepositors' Technical Society. London.
J. Exp. Psychol.	Journal of Experimental Psychology. Evanston, Ill.
J. Exp. Theor. Phys. Acad. Sci. USSR.	Journal of Experimental and Theoretical Physics of the Academy of Sciences of the USSR. Moscow.
J. Franklin Inst.	Journal of the Franklin Institute of the State of Pennsylvania. Lancaster and Philadelphia, Pa.
J. Gen. Physiol.	Journal of General Physiology. Baltimore, Md.
J. Hyg.	Journal of Hygiene. Cambridge.
J. Industr. Hyg. Toxicol.	Journal of Industrial Hygiene and Toxicology. Cambridge, Mass.
J. Inst. Fuel	Journal of the Institute of Fuel. London.
J. Inst. Met.	Journal of the Institute of Metals. London.
J. Inst. Petrol.	Journal of the Institute of Petroleum. London.
J. Instn Auto. Engrs	Journal of the Institution of Automobile Engineers. London.
J. Instn Civ. Engrs	Journal of the Institution of Civil Engineers. London.
†J. Instn Elect. Engrs	Journal of the Institution of Electrical Engineers. London.
J. Instn Engrs, Aust.	Journal of the Institution of Engineers, Australia. Sydney.
J. Instn Mech. Engrs, Lond.	Journal and Proceedings of the Institution of Mechanical Engineers. London.
J. Instn Prod. Engrs	Journal of the Institution of Production Engineers. London.
J. Iron Steel Inst.	Journal of the Iron and Steel Institute. London.
J. Jr. Instn Engrs	Journal of the Junior Institution of Engineers. London.
J. Lab. Clin. Med.	Journal of Laboratory and Clinical Medicine. St. Louis, Mo.
J. Lond. Math. Soc.	Journal of the London Mathematical Society. London.
J. Makromol. Chem.	Journal für makromoleculare Chemie. Leipzig.

J. Mar. Res.	Journal of Marine Research. New Haven, Conn.
J. Mater. Test. USSR.	Journal of Material Testing, USSR.
J. Math. Phys.	Journal of Mathematics and Physics. Cambridge, Mass.
J. Met.	Journal of Meteorology. Lancaster, Pa.
J. Mysore Univ.	Journal of the Mysore University. Bangalore.
J. Nerv. Ment. Dis.	Journal of Nervous and Mental Diseases. New York.
J. Neurophysiol.	Journal of Neurophysiology. Springfield, Ill.
J. Opt. Soc. Amer.	Journal of the Optical Society of America. New York.
J. Phys. Chem.	Journal of Physical Chemistry. Baltimore, Md., and London.
J. Phys. Radium	Journal de Physique et le Radium. Paris.
J. Phys., USSR.	Journal of Physics. Moscow.
J. Physiol.	Journal of Physiology. London and Cambridge.
J.R. Astr. Soc. Can.	Journal of the Royal Astronomical Society of Canada. Toronto.
J.R. Micr. Soc.	Journal of the Royal Microscopical Society. London.
J.R. Soc. Arts	Journal of the Royal Society of Arts. London.
J. Radiol. Électrol.	Journal de Radiologie et d'Électrologie. Paris.
J. Res. Nat. Bur. Stand., Wash.	Journal of Research of the National Bureau of Standards. Washington, D.C.
J. Sci. Industr. Res.	Journal of Scientific and Industrial Research. Delhi.
J. Sci. Instrum.	Journal of Scientific Instruments. London.
J. Soc. Chem. Ind., Lond.	Journal of the Society of Chemical Industry. London.
J. Soc. Dy. Col., Bradford	Journal of the Society of Dyers and Colourists. Bradford.
J. Soc. Glass Tech.	Journal of the Society of Glass Technology. Sheffield.
J. Soc. Mot. Pict. Engrs	Journal of the Society of Motion Picture Engineers. New York.
J. Tech. Phys., USSR.	Journal of Technical Physics, USSR. Moscow.
J. Televis. Soc.	Journal of the Television Society. London.
J. Text. Inst., Manchr	Journal of the Textile Institute. Manchester.
J. Univ. Bombay	Journal of the University of Bombay. Bombay.
J. Wash. Acad. Sci.	Journal of the Washington Academy of Sciences. Menasha, Wis.
K. Fysiogr. Sällsk. Lund, Förh.	Kungliga Fysiografiska Sällskapets i Lund Förhandlingar. Lund, Sweden.
K. Svenska VetenskAkad. Handl.	Kungliga Svenska Vetenskapsakademiens Handlingar. Upsala and Stockholm.
Kolloid-Beih.	Kolloid-Beihefte. Dresden-Blasewitz.
Kolloidzschr	Kolloid Zeitschrift. Dresden-Blasewitz.
Kuhlman Kurr.	Kuhlman Kurrents. Michigan.
Kunststoffe	Kunststoffe. Munich.
Laboratory	Laboratory. Pittsburgh.
Licht	Licht. Berlin.
Light and Ltg.	Light and Lighting. London.
Lunds Univ. Årsskr.	Lunds Universitets Årsskrift. Lund, Sweden.
Mach. Design	Machinery Design. Cleveland, Ohio.
Mach. Mkt.	Machinery Market. London.
Mach. Shop Mag.	Machine Shop Magazine. London.
Machinery, Lond.	Machinery. London.
Machinery, N.Y.	Machinery. New York.
Machinist	Machinist. London.
Marconi Rev.	Marconi Review. London.
Mech. Engng, N.Y.	Mechanical Engineering. New York.
Mech. Handl.	Mechanical Handling. London.
Mech. World	Mechanical World. Manchester and London.
Melliand Textilber.	Melliand Textilberichte. Mannheim.
Mem. India Met. Dep.	Memoirs of the India Meteorological Department. Simla.
Mem. Manchr. Lit. Phil. Soc.	Memoirs and Proceedings of the Manchester Literary and Philosophical Society. Manchester.
Met. Ann.	Meteorologiske Annaler. Oslo.
Metal Finish.	Metal Finishing. Pittsburgh.
Metal Ind., Lond.	Metal Industry. London.
Metal Ind. Rev. USSR.	Metal Industry. Review of the USSR.
Metal Progr.	Metal Progress. Cleveland, Ohio.
Metal Treatm.	Metal Treatment. High Wycombe, Bucks.
Metallurgia, Manchr	Metallurgia. Manchester.
Metallwirtschaft	Metallwirtschaft. Berlin.
Metals and Alloys	Metals and Alloys. Easton, Pa.
Metals Tech.	Metals Technology. New York.
Metrop.-Vick. Gaz.	Metropolitan-Vickers Gazette. Manchester.
Min. Elect. Mech. Engr	Mining Electrical and Mechanical Engineer. Manchester.
Min. Mag.	Mines Magazine. Denver, Col.
Mine Quarry Engng	Mine and Quarry Engineering. London.
Miners' Circ., Wash.	Miners' Circular. The United States Bureau of Mines. Washington, D.C.
Misc. Publ. U.S. Bur. Stand.	Miscellaneous Publications of the National Bureau of Standards. Washington, D.C.
Mod. Plast.	Modern Plastics. New York.
Mod. Refrig.	Modern Refrigeration. London.
Mod. Transp.	Modern Transport. London.
Mon. Not. R. Astr. Soc.	Monthly Notices of the Royal Astronomical Society. London.
Mon. Not. R. Astr. Soc., Geophys. Suppl.	Monthly Notices of the Royal Astronomical Society, Geophysical Supplement. London.
Mon. Weath. Rev., Wash.	Monthly Weather Review. Washington, D.C.
Mot. Ship	Motor Ship. London.
Nature, Lond.	Nature. London.
Naturwissenschaften	Naturwissenschaften. Berlin.
N.Z. J. Sci. Tech.	New Zealand Journal of Science and Technology. Wellington.

Observatory	Observatory. London.
Oil Eng.	Oil Engine. London.
Onde Élect.	Onde Électrique. Paris.
Osram Bull.	Osram Bulletin. London.
Pap. Instn Post Off. Elect. Engrs	The Institution of Post Office Electrical Engineers, Printed Papers. London.
Paper Ind.	Paper Industry. Chicago.
Paper Maker.	Paper Maker. London.
Paper Tr. J.	Paper Trade Journal. New York and Chicago.
Papierfabrikant	Papierfabrikant. Berlin.
Parasitology	Parasitology. Cambridge.
Patna Univ. J.	Patna University Journal. Patna, India.
†Phil. Mag.	The London, Edinburgh and Dublin Philosophical Magazine and Journal of Science. London.
†Philos. Trans.	Philosophical Transactions of the Royal Society of London. London.
Photogr. J.	Photographic Journal. London.
Phys. in regelmäss. Ber.	Die Physik in regelmässigen Berichten. Leipzig.
†Phys. Rev.	The Physical Review. New York.
Phys. Z.	Physikalische Zeitschrift. Leipzig.
†Physica, 's Grav.	Physica, 's Gravenhage. The Hague.
Plastics	Plastics. Washington, D.C.
P.O. Elect. Engrs' J.	The Post Office Electrical Engineers' Journal. London.
Portugaliae Mathematica	Portugaliae Mathematica. Lisbon.
Portugaliae Physica	Portugaliae Physica. Lisbon.
Power	Power. New York and London.
Proc. Amer. Acad. Arts Sci.	Proceedings of the American Academy of Arts and Sciences. Boston, Mass.
Proc. Amer. Phil. Soc.	Proceedings of the American Philosophical Society. Philadelpahi, Pa.
Proc. Amer. Soc. Test. Mater.	Proceedings of the American Society for Testing Materials. Philadelphia, Pa.
Proc. Camb. Phil. Soc.	Proceedings of the Cambridge Philosophical Society. London.
Proc. Indian Acad. Sci.	Proceedings of the Indian Academy of Sciences. Bangalore.
Proc. Indian Ass. Cult. Sci.	Proceedings of the Indian Association for the Cultivation of Science. Calcutta.
†Proc. Inst. Radio Engrs, N.Y.	Proceedings of the Institute of Radio Engineers. New York.
Proc. Instn Radio Engrs, Aust.	Proceedings of the Institution of Radio Engineers, Australia. Sydney.
Proc. Iowa Acad. Sci.	Proceedings of the Iowa Academy of Sciences. Iowa.
Proc. Instn Mech. Engrs	Proceedings of the Institution of Mechanical Engineers. London.
Proc. K. Ned. Akad. Wet.	Proceedings of the Koninklijke Nederlandsche Akademie van Wetenschappen. Amsterdam.
Proc. Leeds Phil. Lit. Soc.	Proceedings of the Leeds Philosophical and Literary Society. Leeds,
Proc. Lond. Math. Soc.	Proceedings of the London Mathematical Society. London.
Proc. Nat. Acad. Sci., Wash.	Proceedings of the National Academy of Sciences. Washington, D.C.
Proc. Nat. Inst. Sci. India	Proceedings of the National Institute of Sciences of India. Calcutta.
†Proc. Phys. Soc., Lond.	Proceedings of the Physical Society. London.
Proc. R. Irish Acad.	Proceedings of the Royal Irish Academy. Dublin and London.
Proc. R. Soc. Med.	Proceedings of the Royal Society for Medicine. London.
Proc. Roy. Instn	Proceedings of the Royal Institution of Great Britain. London.
†Proc. Roy. Soc.	Proceedings of the Royal Society of London. London.
Proc. Roy. Soc. Edinb.	Proceedings of the Royal Society of Edinburgh. Edinburgh and London.
Proc. Roy. Soc. Vict.	Proceedings of the Royal Society of Victoria. Melbourne.
Proc. Soc. Exp. Biol.	Proceedings of the Society for Experimental Biology and Medicine. New York.
Proc. Soil Sci. Soc. Amer.	Proceedings of the Soil Science Society of America. Morganstown, W. Va.
Proc. Tech. Sect. Paper Makers' Ass.	Proceedings of the Technical Section of the Paper Makers' Association of Great Britain and Ireland. London.
Proc. Trans. Tex. Acad. Sci.	Proceedings and Transactions of the Texas Academy of Sciences. Houston, Texas.
Proc. Univ. Durham Phil. Soc.	Proceedings of the University of Durham Philosophical Society. Newcastle upon Tyne.
Prod. Engng	Production Engineering. New York.
Publ. Astr. Soc. Pacif.	Publications of the Astronomical Society of the Pacific. San Francisco.
Publ. Diamond Res. Dept. Diamond Tr. Co.	Publication of the Diamond Research Department. The Diamond Trading Co., Ltd., London.
Publ. Dom. Astrophys. Obs. Vict., B.C.	Publications of the Dominion Astrophysical Observatory. Victoria, B.C.
Publ. Dom. Obs. Ottawa	Publications of the Dominion Observatory. Ottawa.
Publ. Fac. Cienc. Fís.-Mat. La Plata	Publicaciones de la Facultad de Ciencias Físico-Matemáticas de la Universidad Nacional de la Plata. La Plata.
Publ. Hlth Rep., Wash.	Public Health Reports. Washington, D.C.
Pulp. Pap. Mag. Can.	Pulp and Paper Magazine of Canada. Montreal.
Pwr Plant (Engng)	Power Plant Engineering. Chicago.
Pwr Transm., Chicago	Power Transmission. Chicago.
Quart. Appl. Math.	Quarterly of Applied Mathematics. Providence, R.I.
Quart. J. Math.	Quarterly Journal of Mathematics. Oxford.
Quart. J. R. Met. Soc.	Quarterly Journal of the Royal Meteorological Society. London.
Radio News	Radio News. Chicago.
Radio-Electronic Engng	Radio-Electronic Engineering. Chicago.
Radiography	Radiography. London.
Radiology	Radiology. Syracuse, N.Y.

Rayon Text. Mon.	Rayon Textile Monthly. New York.
Receuil trav. sci. Polonais internés en Suisse	Receuil de travaux scientifiques des Polonais internés en Suisse. Winterthur, Switzerland.
Rep. Brit. Elect. Allied Industr. Res. Ass.	Reports of the British Electrical and Allied Industries Research Association. London.
Rep. Invest. U.S. Bur. Min.	Report of Investigations. The United States Bureau of Mines. Washington, D.C.
Rep. Jt Conf. Inst. Fuel Nat. Smoke Abatem. Soc.	Report of the Joint Conference of the Institute of Fuel and the National Smoke Abatement Society. London.
Rep. Phys. Soc. Progr. Phys.	Reports of the Physical Society on Progress in Physics. London.
Repr. Univ. Ill. Engng Exp. Sta.	Reprint Series of the University of Illinois Engineering Experiment Station. Urbana, Ill.
Rev. Brasil Biol.	Revista Brasiliera de Biologia. Rio de Janeiro.
Rev. Electrotéc.	Revista Electrotécnica. Buenos Aires.
Rev. Gén. Élect.	Revue Générale d'Électricité. Paris.
Rev. Métall.	Revue de Métallurgie. Paris.
Rev. Mod. Phys.	Reviews of Modern Physics. New York.
Rev. Sci. Instrum.	Review of Scientific Instruments. New York.
Rev. Univ. Nac. Tucumán	Revista de la Universidad Nacional de Tucumán. Tucumán, Argentine.
Rly Gaz., Lond.	Railway Gazette. London.
Rly Signaling	Railway Signaling. Chicago.
Schweiz. Arch. angew. Wiss. Tech.	Schweizer Archiv für angewandte Wissenschaft und Technik. Solothurn, Switzerland.
Schweiz. Bauztg	Schweizerische Bauzeitung. Zürich.
Schweiz. Brauerei-Rundschau.	Schweizer Brauerei-Rundschau. Zürich.
Sci. and Cult.	Science and Culture. Calcutta.
Sci. Forum	Science Forum. Coulsdon, Surrey.
Sci. Notes India Met. Dep.	Scientific Notes of the India Meteorological Department. Simla.
Sci. Proc.. R. Dublin Soc.	Scientific Proceedings of the Royal Dublin Society. Dublin and London.
Sci. Rec., Acad. Sinica	Science Record. Chungking.
Science	Science. Lancaster, Pa.
Sheet Metal Industr.	Sheet Metal Industries. London.
Shipbuild. Shipp. Rec.	Shipbuilder and Shipping Record. London.
Shipbuilder	Shipbuilder. Newcastle upon Tyne.
Sky and Telescope	Sky and Telescope. Cambridge, Mass.
Soil Sci.	Soil Science. New Brunswick, N.J.
Spec. Publ. U.S. Cst Geod. Surv.	Special Publications of the Coast and Geodetic Survey. Washington, D.C.
Steel	Steel. Cleveland, Ohio.
Stockholms Obs. Ann.	Stockholms Observatoriums Annaler. Stockholm.
Strowger J.	Strowger Journal. Liverpool.
Students' Quart. J. Instn Elect. Engrs	Students' Quarterly Journal of the Institution of Electrical Engineers. London.
Svensk PappTidn.	Svensk Papperstidning. Stockholm.
Svenska VattenkrFören. Publ.	Svenska Vattenkraftföreningens Publikationer. Stockholm.
Symposium on Cosmic Rays, Acad. Brasiliera Ciênc.	Symposium on Cosmic Rays. Academia Brasiliera Ciencias. Rio de Janeiro.
Tech. Pap. U.S. Bur. Min.	Technical Papers of the United States Bureau of Mines. Washington, D.C.
Tech. Publ. Amer. Inst. Min. Metallurg. Engrs	Technical Publications of the American Institute of Mining and Metallurgical Engineers. New York.
Tekn. Tidskr.	Teknisk Tidskrift. Stockholm.
Telegr.- Fernspr.- Funk.- u. Fernsehtech. [TFT]	Telegraphen- Fernsprech- Funk- und Fernsehtechnik. Berlin.
Terr. Magn. Atmos. Elect.	Terrestrial Magnetism and Atmospheric Electricity. Baltimore, Md.
Text. Mfr, Manchr	Textile Manufacturer. Manchester.
Text, World	Textile World. New York.
Thesis Phys. Inst., Univ. Lund	Thesis of the Physics Institute. Lund University. Lund, Sweden.
Tijdschr. Ned. Radiogenoot.	Tijdschrift van het Nederlandsch Radiogenootschap. Baarn, Holland.
Trans. Amer. Geophys. Un.	Transactions of the American Geophysical Union. Washington, D.C.
†Trans. Amer. Inst. Elect. Engrs	Transactions of the American Institute of Electrical Engineers. New York.
Trans. Amer. Math. Soc.	Transactions of the American Mathematical Society. Menasha, Wis., and New York.
Trans. Amer. Phil. Soc.	Transactions of the American Philosophical Society. Philadelphia.
Trans. Amer. Soc. Mech. Engrs	Transactions of the American Society of Mechanical Engineers. New York.
Trans. Amer. Soc. Met.	Transactions of the American Society for Metals. Cleveland, Ohio.
Trans. Brit. Ceram. Soc.	Transactions of the British Ceramic Society. Tunstall, Staffs.
Trans. Chalmers Univ. Tech. Gothenburg	Transactions of the Chalmers University of Technology. Gothenburg.
Trans. Electrochem. Soc.	Transactions of the Electrochemical Society. New York.
Trans. Faraday Soc.	Transactions of the Faraday Society. London.
Trans. Illum. Engng Soc., Lond.	Transactions of the Illuminating Engineering Society. London.
Trans. Inst. Mar. Engrs	Transactions of the Institute of Marine Engineers. London.
Trans. Inst. Weld.	Transactions of the Institute of Welding. London.
Trans. Instn Engrs Shipb. Scot.	Transactions of the Institution of Engineers and Shipbuilders in Scotland. Glasgow.
Trans. Instn Nav. Archit., Lond.	Transactions of the Institution of Naval Architects. London.

Trans. N.-E. Cst Instn Engrs Shipb.	Transactions of the North-East Coast Institution of Engineers and Shipbuilders. Newcastle upon Tyne.
Trans. N.Y. Acad. Sci.	Transactions of the New York Academy of Science. New York.
Trans. Roy. Soc. Can.	Transactions of the Royal Society of Canada. Ottawa.
Trans. Roy. Soc. Edinb.	Transactions of the Royal Society of Edinburgh. Edinburgh and London.
Trans. S. Afr. Inst. Elect. Engrs	Transactions of the South African Institute of Electrical Engineers. Johannesburg.
Transp. World	Transport World. London.
Univ. Kans. Sci. Bull.	University of Kansas Science Bulletin. Lawrence, Kans.
Wärme	Wärme. Berlin.
Weld. Engr	Welding Engineer. Chicago.
Weld. J.	Welding Journal. London.
Welder	Welder. London.
Welding	Welding. Pittsburgh.
Westingho. Engr	The Westinghouse Engineer. East Pittsburgh, Pa.
Wire and W. Prod.	Wire and Wire Products. New York.
†Wireless Engr	Wireless Engineer. London.
Wireless World	Wireless World. London.
Wiss. Veröff. Siemens-Werk.	Wissenschaftliche Veröffentlichungen aus den Siemens-Werken. Berlin.
Z. angew. Math. Mech.	Zeitschrift für angewandte Mathematik und Mechanik. Berlin.
Z. Astrophys.	Zeitschrift für Astrophysik. Berlin.
Z. Elektrochem.	Zeitschrift für Elektrochemie und angewandte physikalische Chemie. Berlin.
Z. Fernmeldetech.	Zeitschrift für Fernmeldetechnik, Werk- und Gerätebau. Munich.
Z. ges. Kälteindustr.	Zeitschrift für die gesamte Kälte-Industrie. Berlin.
Z. Kristallogr.	Zeitschrift für Kristallographie, Kristallgeometrie, Kristallphysik, Kristallchemie. Leipzig.
Z. Metallk.	Zeitschrift für Metallkunde. Berlin.
Z. Phys.	Zeitschrift für Physik. Berlin.
Z. phys. Chem.	Zeitschrift für physikalische Chemie (Abteilungen A und B). Leipzig.
Z. techn. Phys.	Zeitschrift für technische Physik. Leipzig.
Z. Ver. dtsch. Ing. [VDI]	Zeitschrift des Vereines deutscher Ingenieure. Berlin.

ABSTRACTORS

G. E. Allan, D.Sc.
W. R. Angus, M.A., D.Sc., Ph.D., F.R.I.C.
E. H. W. Banner, M.Sc., M.I.E.E., F.Inst.P.
W. G. Bickley, D.Sc.
N. M. Bligh, A.R.C.Sc., A.I.C.
C. F. Brocklesby, B.Sc., A.R.C.S.
W. W. Campbell, B.Sc.
N. Corcoran, B.A., M.Sc.
E. H. Dock, M.Sc., A.R.C.S., D.I.C., F.Inst.P.
A. Everett, M.A., Ass.Brit. I.R.E.
F. T. Farmer, B.Sc.(Eng.), Ph.D.
G. F. Freeman, M.Sc.(Eng.), M.I.E.E.
H. W. C. Gatehouse, A.M.I.E.E.
L. S. Goddard, B.Sc.
R. H. Golde, B.Sc., A.M.I.E.E., A.M.A.I.E.E.
C. J. Golledge, F.R.E.S.
J. Grant, D.Sc.
E. D. Hart, M.A., M.I.R.E.
A. Harvey, Ph.D., B.Sc., F.Inst.P.
H. H. Hodgson, Ph.D., M.A., B.Sc., F.R.I.C.
A. Hunter, Ph.D., D.I.C., F.R.A.S.
R. G. Jakeman, D.Sc., M.I.E.E.
B. J. Leggett, A.M.I.E.E., L.R.C.P., M.R.C.S.
G. C. McVittie, M.A., Ph.D., F.R.A.S.
R. Matthews.
A. J. Mee, M.A., B.Sc.
R. E. Neale, B.Sc., A.C.G.I., A.M.I.E.E.
R. Neumann, B.Sc.
R. W. Powell, D.Sc., Ph.D., F.Inst.P.
R. S. Read, M.A., B.Sc.
T. J. Rehfisch, B.Sc.(Eng.).
W. A. Richardson, O.B.E., B.A., D.Sc., B.Sc.(Eng.), F.G.S.
S. Silbermann, B.Sc.
H. O. Smerd, M.Eng.
H. G. Solomon, A.C.G.I., M.I.E.E.
E. O. Taylor, B.Sc., A.M.I.E.E.
J. Thewlis, D.Sc.
A. M. Thomas, B.Sc., F.Inst.P., A.M.I.E.E.
J. S. G. Thomas, D.Sc.
A. E. Tooke, B.Sc., A.M.I.E.E., A.Inst.P.
J. W. T. Walsh, M.A., D.Sc., M.I.E.E.
A. C. Whiffin, B.Sc., M.Sc.(Eng.).
A. Wilkinson, B.Sc.

Editor:
B. M. Crowther, M.A., Ph.D., F.Inst.P

Assistant Editor:
G. N. J. Beck, B.Sc., A.Inst.P.

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The system is based on the conception of the whole of human knowledge as unity, divided into ten domains represented by decimal fractions:

.0	Generalities
.1	Philosophy
.2	Religion
.3	Social sciences
.4	Philology
.5	Pure science
.6	Applied science
.7	Art
.8	Literature
.9	History and geography

On this foundation the system is constructed on the principle of proceeding from the general to the more particular by continued subdivision of the numbers into decimal fractions.

Thus every concept within the domain of Pure Science is represented by a decimal fraction greater than .5 and less than .6, the first groups being

.50	General works on pure science
.51	Mathematics
.52	Astronomy
.53	Physics
.54	Chemistry. Crystallography
.55	Geophysics
.56	Palaeontology
.57	Biology
.58	Botany
.59	Zoology

For convenience the first decimal point is always omitted, but it is essential that it should remain imprinted on the reader's mind. The fact that all the numbers are in reality decimal fractions less than unity determines the arrangement of the numbers in numerical sequence. Thus 526 (meaning .526) precedes 53 (meaning .53) in ascending order.

To indicate a work dealing with two or more subjects independently, the numbers corresponding to these subjects are connected by + signs. Thus

531.754 + 536.62	Measurement of density and of specific heat

More important, and more widely used, is the symbol denoting some functional relation between two or more concepts, expressed by the respective numbers linked by the colon sign " : "

Thus

537.531	X-rays
535.4	Diffraction
548.0	Crystals
537.531 : 535.4 : 548.0	X-ray diffraction by crystals

Further symbols, for the use of which the reader is referred to B.S. 1000, Vol. 1, Part 1, may be used for indicating form, place, language, etc., e.g.

historical:	538.7(09)	Early geomagnetic instruments
place:	551.524.2(73)	Temperature maps of the United States
language:	548.55 = 3	Monocrystalline tungsten wires (in German)

The arrangement in each monthly issue is numerical, according to the U.D.C. numbers. Cross-references, indicated by compound numbers linked by the colon symbol, are given in their proper places, according to each component number. Thus abstracts with compound indices such as

537.531 : 535.4 : 548.0	X-ray diffraction by crystals

are given under 537.531 X-rays, and quoted again under 535.4 Diffraction, and 548.0 Crystals, so that the subject of the abstract is indicated to the searcher in every one of the three fields.

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52	Astronomy. Geodesy
53	Physics
54	Chemistry
55	Geology. Geophysics
57/59	Biological Sciences
61	Medical Sciences
66/68	Industrial Technology
77	Photography

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51 MATHEMATICS

511	ARITHMETIC AND THEORY OF NUMBERS
511.1	Numeration. Arithmetical operations
.11	Notation
.12	Addition, subtraction, multiplication and division of integers
.13	Factors. Fractions. Decimals. Percentages. Proportion
.14	Extraction of roots. Surds. Imaginaries
.15	Arithmetical use of logarithms
.16	Operations with concrete units
.2	General properties of numbers. Residues
.22	Congruences. Indeterminate analysis of the first degree
.23	Quadratic residues
.24	Complex numbers of the form $a + b\sqrt{-1}$
.28	Theory of prime numbers
.4	Forms. Systems of forms
.5	Indeterminate equations of order higher than the first
.6	Algebraic numbers
511.7	Theory of continued fractions
.8	Transcendental numbers
512	ALGEBRA
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.14	Binomial formula. Powers of polynomials
.2	Equations and functions of the first and second degree
.3	Theory of equations. Polynomials
.4	Solution of equations by radicals
.5	Rational fractions. Interpolation
.8	Higher algebra
.83	Determinants. Matrices
.86	Linear substitutions. Groups See also 519.4 Theory of groups
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.88	Invariants and covariants
.89	Theory of forms
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.44/.47 Spheres. Spherical geometry
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.63 Algebraic skew curves
.64 Transcendental curves and surfaces
.65 Algebraic twisted curves
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515 **DESCRIPTIVE GEOMETRY. PROJECTION. PERSPECTIVE**

516 **ANALYTICAL GEOMETRY. CO-ORDINATES**

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.3 Integral calculus
.4 Functional determinants. Differentia forms. Differential and integral operators
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.512.4 Series of Bessel functions
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.53 Analytic functions of a complex variabl
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.55 Functions of several complex variables
.56 Algebraic, circular, exponential, hyperbolic and other functions
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.61 Gamma functions
.63 Laplace transformations
.7 Elliptic functions
.8 Hyperelliptic functions. Abelian functions. Fuchsians
.9 Differential, integral, functional and finite difference equations
.949 Theory of finite differences

518 **GRAPHS. METHODS OF CALCULATION. NOMOGRAPHY. TABLES MATHEMATICAL GAMES AND RECREATIONS**

519 **COMBINATORY ANALYSIS. MATHEMATICAL STATISTICS. CALCULUS OF PROBABILITY. CALCULUS OF VARIATIONS. THEORY OF GROUPS THEORY OF AGGREGATES**
519.1 Combinatory analysis
.21 Calculus of probability
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.25 Statistical regularity. Errors of observation. Probable values
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.27 Quantitative observations. Sampling Correlation
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.14 Shape of celestial bodies
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.02 General laws
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